

ABSTRACT

In order to provide a heat exchanger with casing having a multiplicity of tubes through the interiors of which a high-temperature gas for heating flows, wherein the thermal stress is smoothly accommodated and wherein a fluid to be heated or a heating fluid flows uniformly through the outsides of the tubes, a multiplicity of flat tubes are joined at their opposed ends to a pair of discoidal tube plates, the outer periphery of the flat tubes being enclosed by an inner cylinder having a rectangular cross-section except the opposed end portions of the flat tubes, with a pair of baffle plates being disposed at the opposed ends of the inner cylinder. The pair of baffle plates are covered with an circular outer cylinder having a corrugated portion that is thermally expandable, with an inlet and an outlet for the fluid to be heated or the heating fluid positioned between the pair of baffle plates and the tube plates.